

Amendment to the Claims

1-6. (canceled)

7. (currently amended) A packaging vector derived from HIV-2, comprising a 5' splice donor site, and an upstream and a downstream packaging signal sequence, wherein both the upstream and downstream packaging signal sequences are functionally deleted to substantially eliminate packaging of progeny viral RNA, but the splice donor site (SD) is functionally intact.

8. (currently amended) The packaging vector of claim 7 wherein functional deletion of the upstream and downstream packaging signal sequences comprises deletion of the deletions comprise no more than 164 nucleotides upstream of the SD and deletion of no more than 62 nucleotides downstream of the SD.

9. (currently amended) The packaging vector of claim 7, wherein functional deletion of the upstream and downstream packaging signal sequences comprises:

deletion of the deletions comprise nucleotides 306-458 upstream of the SD, and deletion of nucleotides 486-538 downstream of the SD; or

the deletions comprise deletion of nucleotides 306-370 upstream of the SD, and deletion of nucleotides 486-538 downstream of the SD; or

the deletions comprise deletion of nucleotides 371-458 upstream of the SD, and deletion of nucleotides 486-538 downstream of the SD.

10. (currently amended) The packaging vector of claim 9, wherein functional deletion of the upstream and downstream packaging signal sequences comprises deletion of the deletions comprise no more than 164 nt nucleotides upstream of the SD and deletion of no more than 62 nucleotides downstream of the SD.

11. (original) The packaging vector of claim 7 further comprising a 3'LTR, a 5'LTR, and a heterologous promotor CMV.

12. (original) The packaging vector of claim 10, wherein the 3'LTR is functionally deleted.

13. (original) The packaging vector of claim 12, wherein the 3'LTR is replaced with a heterologous transcriptional termination sequence.

14. (original) The packaging vector of claim 7, wherein the upstream packaging signal corresponds to nucleotides downstream from nucleotide 300 and upstream from the SD, and the

downstream packaging signal corresponds to nucleotides downstream from the SD and upstream from nucleotide 539.

15. (original) The packaging vector of claim 7, wherein the functional deletions in the packaging vector decreases syncitia induction.

16. (original) An HIV packaging vector comprising a polynucleotide sequence which encodes HIV-2 proteins, wherein the polynucleotide sequence includes a mutation in a leader sequence upstream from a 5' splice donor site, and a mutation between the 5' splice donor site and an initiation codon followed by a stop codon of a gag gene, which results in HIV-2 RNA transcribed from the vector being substantially packaging defective.

17. (original) An HIV packaging vector comprising:

(a) a DNA segment from an HIV-2 genome, wherein the DNA segment comprises the HIV gag, pol and env genes; wherein the vector lacks an HIV-2 packaging sequence necessary to package HIV-2 RNA into virions, wherein the HIV-2 packaging sequence is a combination of a nucleotide sequence located between a 5' splice donor site and a nucleotide sequence located between the 5' splice donor site and an initiation codon of the gag gene on the HIV-2 genome;

(b) an intact 5' splice donor site; and

(c) a promoter operably linked to the DNA segment of (a), wherein the vector, when introduced into a eukaryotic host cell, expresses HIV-2 Gag, Pol, Rev, Tat, and Env proteins to form HIV-2 virions that are not packaged.

18-20. (canceled)

21. (previously presented) A cell that expresses or has been transfected with the packaging vector of claim 7.

22-42. (canceled)

43. (previously presented) A cell that expresses or has been transfected with the packaging vector of claim 17.

44. (new) The packaging vector of claim 7, wherein functional deletion of the upstream and downstream packaging signal sequences comprises deletion of nucleotides 306-458 upstream of the SD, and deletion of nucleotides 486-538 downstream of the SD.

45. (new) The packaging vector of claim 7, wherein functional deletion of the upstream and downstream packaging signal sequences comprises deletion of nucleotides 306-370 upstream of the SD, and deletion of nucleotides 486-538 downstream of the SD.

46. (new) The packaging vector of claim 7, wherein functional deletion of the upstream and downstream packaging signal sequences comprises deletion of nucleotides 371-458 upstream of the SD, and deletion of nucleotides 486-538 downstream of the SD.